PPL companies

Transmission Strategy and Planning

FAC-013-2 Transfer Capability Methodology

Effective: October 15, 2017

LG&E KU
PPL companies

Standard Information

FAC-013-2: All Requirements
Standard and Requirement Number **Assessment of Transfer Capability for the Near-term Transmission Planning Horizon**
Document Title **FAC-013-2 Transfer Capability Methodology**
Effective Date: **October 15, 2017**

Required Approval Signature

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Revision History

Effective Date	Version No.	3.0
10/15/2017	Summary of Changes: Annual review required by Compliance department. Removed NERC Glossary language but referenced NERC Glossary; copied FAC-014-2 requirements for reference. Incorporated MISO comments,	
Effective Date	Version No.	2.0
10/31/2016	Summary of Changes: Annual review required by Compliance department; added clarification on forecast; .software tool changed from PSS MUST to TARA; removed reference to R3 since it was retired January 21, 2014. Add paragraph related to new TPL-001-4 standard for performing FAC-013 study. Add clarification that LG&E AND KU TP performs the functions of PC.	
Date	Version No.	1.0
04/01/2013	Summary of Changes: Document Creation; removed NERC Glossary language and just referenced glossary.	

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1 Introduction

The methodology described in the document was developed to ensure that the Planning Coordinator (PC) for Louisville Gas and Electric and Kentucky Utilities Company (LG&E and KU) perform an annual assessment of Transfer Capability for the Near-Term Planning Horizon. The purpose of the assessment is to identify potential future transmission system weaknesses and limiting Facilities that could impact the Bulk Electric System's (BES) ability to reliably transfer energy.

2 Definitions

Definitions can be found in the NERC Glossary for italicized terms.

Balancing Authority
Balancing Authority Area
Bulk Electric System (BES) definition.
Demand Side Management
Facility
Flowgate
Generator Owner
Load Serving Entity.
Near-Term Planning Horizon
Planning Assessment
Planning Authority (PA)
Planning Coordinator (PC)
Point-to-Point Transmission Service
Resource Planner
System
System Operating Limit (SOL)
Facility Ratings
Transfer Capability
Transmission Planner (TP)

3 Responsibilities & Procedures

3.1 R1

R1. Each Planning Coordinator shall have a documented methodology it uses to perform an annual assessment of Transfer Capability in the Near-Term Transmission Planning Horizon (Transfer Capability methodology). The Transfer Capability methodology shall include, at a minimum, the following information: *[Violation Risk Factor: Medium] [Time Horizon: Long-term Planning]*

1.1. Criteria for the selection of the transfers to be assessed.

1.2. A statement that the assessment shall respect known System Operating Limits (SOLs).

1.3. A statement that the assumptions and criteria used to perform the assessment are consistent with the Planning Coordinator's planning practices.

1.4. A description of how each of the following assumptions and criteria used in performing the assessment are addressed:

1.4.1. Generation dispatch, including but not limited to long term planned outages, additions and retirements.

1.4.2. Transmission system topology, including but not limited to long term planned Transmission outages, additions, and retirements.

1.4.3. System demand.

1.4.4. Current approved and projected Transmission uses.

1.4.5. Parallel path (loop flow) adjustments.

1.4.6. Contingencies

1.4.7. Monitored Facilities.

1.5. A description of how simulations of transfers are performed through the adjustment of generation, Load or both.

R1. Each Planning Coordinator shall have a documented methodology it uses to perform an annual assessment of Transfer Capability in the Near-Term Transmission Planning Horizon (Transfer Capability methodology). This document is the Transfer Capability methodology.

The LG&E and KU Transmission Planner group also performs the functions for Planning Coordinator (PC) for LG&E and KU. The LG&E and KU PC performs an annual assessment of the Transfer Capability in the Near-Term Planning Horizon. LG&E and KU uses near term summer and winter peak models developed for the annual Planning Assessment to assess the Transfer Capability. (R.1.)

R1.1. Criteria for the selection of the transfers to be assessed.

Transfers up to 150% of the interconnection capability between LG&E and KU and the first tier neighbors. The 150% of the interconnection capability is used for the addition and elimination of Flowgates as described in OATT Attachment C. Transfers are also simulated between MISO, PJM and TVA (i.e. MISO to PJM, PJM to MISO, etc.) up to 10,000 MW. (R1.1.) The transfer levels between TVA, PJM and MISO as described in OATT Attachment C.

R1.2. The assessed Transfer Capability limits the transfer when SOLs are exceeded. The SOLs for LG&E and KU are the applicable seasonal Facility Ratings.

R1.3. The Transfer Capability assessment is performed in accordance with the LG&E and KU Transmission System Planning Guidelines posted on OASIS.

R1.4.1. Generation units in the LG&E and KU model area are dispatched in merit order. The merit order is provided by the Generator Owners and/or Resource Planners through an annual MOD-032 data request. Generation outages scheduled for longer than six months, including retirements which are scheduled during the peak of the study period are modeled. Generation additions with approved firm transmission service are modeled. A list of generation retirements and/or additions are received through the annual MOD-032 data request.

R1.4.2. The LG&E and KU transmission system is modeled with the expected normal configuration during the study period. Transmission outages scheduled for longer than six months, including retirements which are scheduled during the peak of the study period are modeled. The list of transmission outages are received through the annual MOD-032 data request.

Transmission additions with a scheduled in-service date prior to the peak of the study period will be modeled. Transmission additions come from the Transmission Expansion Plan as presented to LG&E and KU stakeholders through biannual stakeholder meetings.

R1.4.3. Network customers provide forecasts of network load levels to include in the model(s) via the annual MOD-032 data request. The load level is based on a load forecast for seasonal peak periods for both summer and winter peaks. These are submitted by Load Serving Entities in the LG&E and KU PC area. The system demand for other PC areas outside of LG&E and KU are retrieved from the multiregional modeling working group (MMWG) / Eastern Interconnection Reliability Assessment Group (ERAG) models.

R1.4.4. All confirmed long-term firm Point-To-Point Transmission Service with a contract period of five or more years will be included in the model(s).

R1.4.5. Other transactions that result in loop flows through the LG&E and KU transmission system are those confirmed, firm TSRs that were included in the multiregional modeling working group (MMWG) / Eastern Interconnection Reliability Assessment Group (ERAG) models.

R1.4.6. The analysis will simulate each LG&E and KU single line contingency 100 kV and above. Also, each single line contingency 100 kV and above for first-tier utilities will be simulated.

R1.4.7. All LG&E and KU System and first-tier facilities 100 kV and above will be monitored as part of the simulations.

R1.5. Transfer simulations will be performed by utilizing the “export” and “import” functionality of TARA which is a PowerGEM software tool. TARA scales available generation (including offline) up in the “from” area and scales available generation down in the “to” area.

3.2 R2

R2. Each Planning Coordinator shall issue its Transfer Capability methodology, and any revisions to the Transfer Capability methodology, to the following entities subject to the following: *[Violation Risk Factor: Lower] [Time Horizon: Long-term Planning]*

2.1. Distribute to the following prior to the effectiveness of such revisions:

2.1.1. Each Planning Coordinator adjacent to the Planning Coordinator's Planning Coordinator area or overlapping the Planning Coordinator's area.

2.1.2. Each Transmission Planner within the Planning Coordinator's Planning Coordinator area.

2.2. Distribute to each functional entity that has a reliability-related need for the Transfer Capability methodology and submits a request for that methodology within 30 calendar days of receiving that written request.

R2.1. This methodology and any subsequent revisions will be distributed to PCs adjacent to or overlapping the LG&E and KU PC area prior to its effectiveness. The methodology and any subsequent revisions will also be distributed to each Transmission Planner (TP) within the LG&E and KU PC area prior to its effectiveness. LG&E and KU TP is the only TP within the LG&E and KU PC area. A spreadsheet with names and contact information for the adjacent Planning Coordinators are maintained by the LG&E and KU PC.

R2.2. If an entity, other than described in R2.1 above, has a reliability-related need for the Transfer Capability methodology and submits a request for the methodology, the methodology will be provided within 30 calendar days of receipt of the request. The assessment of the Transfer Capability methodology is posted on OASIS and can be downloaded by those entities that have a reliability related need for the methodology.

3.3 R3

R3. If a recipient of the Transfer Capability methodology provides documented concerns with the methodology, the Planning Coordinator shall provide a documented response to that recipient within 45 calendar days of receipt of those comments. The response shall indicate whether a change will be made to the Transfer Capability methodology and, if no change will be made to that Transfer Capability methodology, the reason why. *[Violation Risk Factor: Lower] [Time Horizon: Long-term Planning]*

Requirement R3 was retired (January 21, 2014) and is no longer applicable to FAC-013-2.

3.4 R4

R4.	During each calendar year, each Planning Coordinator shall conduct simulations and document an assessment based on those simulations in accordance with its Transfer Capability methodology for at least one year in the Near-Term Transmission Planning Horizon. *[Violation Risk Factor: Medium] [Time Horizon: Long-term Planning]*

The LG&E and KU performs a Transfer Capability assessment annually per this methodology. During each calendar year, the LG&E and KU PC will conduct simulations and document an assessment based on those simulations in accordance with its Transfer Capability methodology for the five year model winter and summer peak in the Near-Term Transmission Planning Horizon.

3.5 R5

R5.	Each Planning Coordinator shall make the documented Transfer Capability assessment results available within 45 calendar days of the completion of the assessment to the recipients of its Transfer Capability methodology pursuant to Requirement R2, Parts 2.1 and Part 2.2. However, if a functional entity that has a reliability related need for the results of the annual assessment of the Transfer Capabilities makes a written request for such an assessment after the completion of the assessment, the Planning Coordinator shall make the documented Transfer Capability assessment results available to that entity within 45 calendar days of receipt of the request *[Violation Risk Factor: Lower] [Time Horizon: Long-term Planning]*

R5. The assessment results will be distributed within 45 calendar days of the completion of the assessment to adjacent PCs and TPs within the LG&E and KU PC area. Additionally, if a functional entity with a reliability-related need submits a written request for the assessment results, the LG&E and KU PC will make the documented results available to that entity within 45 calendar days of receipt of the request.

3.6 R6

R6.	If a recipient of a documented Transfer Capability assessment requests data to support the assessment results, the Planning Coordinator shall provide such data to that entity within 45 calendar days of receipt of the request. The provision of such data shall be subject to the legal and regulatory obligations of the Planning Coordinator's area regarding the disclosure of confidential and/or sensitive information. *[Violation Risk Factor: Lower] [Time Horizon: Long-term Planning]*

R6. If a recipient of the assessment requests LG&E and KU to provide data to support the assessment results, the LG&E and KU PC will provide such data to that entity within 45 calendar days of receipt of the request. LG&E and KU has non-disclosure agreements with adjacent PCs and TPs. If another entity with a reliability need requests data to support the assessment results, that entity may be required to execute a non-disclosure agreement prior to obtaining the requested data.